ArkDSS Memorandum
Final

To: Bill Tyner and Kelley Thompson, Colorado Division of Water Resources

From: Wilson Water Group

Subject: Task 2.1 – Water Commissioner Interviews
Notes from Water District 15 Meeting

Date: February 2019

Introduction

This memorandum provides notes from the September 7, 2017 with the Water District 15 Water Commissioner. Water District 15 includes the St. Charles River tributaries. Meetings were held with Water Commissioners in each Water District in the ArkDSS study area. The objectives of these meetings were to 1) develop an initial basin understanding; 2) determine diversion and reservoir structures that should be included in future detailed modeling efforts, and 3) determine which reservoirs and diversions warrant more detailed investigation and technical documentation. These objectives support Task 3 Consumptive Use Analysis and Task 4 Surface Water Modeling. Information in this memorandum is believed to be accurate for water planning and modeling purposes; however, this information should not be relied upon in any legal proceeding.

Approach

In preparation for the meeting, Water District 15 data were compiled and reviewed using the following procedure outlined in the ArkDSS Scope of Work:

1. Review availability of diversion, reservoir storage, and streamflow data.
2. Review historical call data and identify how it may vary from current call reporting standards.
3. Identify net absolute water rights for structures in each water district. Review the irrigated lands master parcel set to identify ditches with water rights and/or diversions records for which irrigated areas have not been identified.
4. Develop an initial list of key structures and structures with acreage and water rights, but no diversion records to understand areas without records and how to estimate their use.

Maps were also developed displaying reservoirs, diversion headgate locations, and irrigated acreage of the Water District to facilitate the discussions.

The interview with the Water Commissioner was intended to determine structures that should be considered key based on seniority, water administration, or basin operations. Because much of the irrigated acreage in the Water District 15 had inaccurate ditch assignments, the interview also served to correct irrigated parcels and ditch assignments required for modeling purposes.

Prior to the meeting, a brief description of the purpose and goals of the interview was provided to the Water Commissioner. The following is a summary of the meeting agenda:

1. Review straight-line diagrams for accuracy
2. Develop a list of major projects, reservoirs, and ditches in the water district, including names of knowledgeable contact people
3. Gather information on dry-up points in the river, calling rights, augmentation plans, and administration specific to the water district
4. Gather general information on the preliminary list of irrigation diversions selected to include in future detailed modeling efforts (key structures), and solicit input on their final inclusion
5. Develop information on reservoirs, such as owner entities, ditches that get reservoir deliveries, assigned delivery losses, etc.
6. Correct irrigated acreage information

Meeting Attendance

The meeting was held in Pueblo. The following people attended the meeting:

Steve Witte, Division 2 Engineer
Bill Tyner, Assistant Division Engineer (Surface Water Operations)
John Van Oort, River Operations Coordinator
Kelley Thompson, DWR, Lead Modeler
Steve Stratman, District 14and15 Water Commissioner
Doug Hollister, Northern Region Lead Water Commissioner
Erin Wilson, Wilson Water Group
Katie Birch, Wilson Water Group

Transbasin Diversions

One trans-district import is delivered to Water District 15. The Comanche Pump Station (1400618) delivers water to the Comanche Power Plant located in Water District 14. Return flows to the Arkansas River, generally in the 2 to 5 cfs range, are measured by DWR.

Compacts and Agreements Affecting District 15 Administration

As a tributary to the Arkansas River, Water District 15 is subject to conditions and stipulations set forth in the Arkansas River Compact between Colorado and Kansas. The Arkansas River Compact does not generally affect water administration on the Water District 15 tributaries; however, they must provide notice of irrigation improvements.

Stream Gages

There is one active streamflow gage in Water District 15, and five historical streamflow gages that may be used during model development. The gages, station ID, and comments regarding the use or quality of the gage are summarized below.

Gage ID	Gage Name	Period of Record	Comment
07107900	Greenhorn Creek near Rye	1973-1979 1999-2001	
07108050	Greenhorn Creek near Colorado City	1974-1979	
07108500	St. Charles River near Pueblo	1941-1953	
07108800	St. Charles River near Vineland	1968-1974	
07108100	Graneros Creek near Rye	1999-2001	
GRECRKCO	Greenhorn Creek above Rye	2007-2017	Used for Administration above Colorado City, compound weir fills in with rocks and affects gage accuracy, particularly during low flows
SHRDITCO	Shurtz Ditch above Rye	2007-2017	Same location as GRECRKCO, but measures diversion through ditch
GRECRCCO	Greenhorn Creek and Shurtz Ditch (Combined)	2013-2014	Same location as GRECRKCO, but measures combined Greenhorn Creek and Shurtz Ditch
STCHARCO	St. Charles River at Vineland	1979-2017	

Instream Flow Reaches

Eight Colorado Water Conservation Board (CWCB) Instream Flow Program water rights are decreed in Water District 15. The instream flow reaches are junior to most other rights and do not typically affect river administration.

- Graneros Creek Instream Flows (1503005, 1503006)are decreed year-round for 0.25 cfs from the headwaters to Evergreen Ditch and for 1.25 cfs (May 1-August 14); 0.5 cfs (August 15-November 30; 0.30 cfs (December 1-March14); and 0.5 cfs (March 15-April 30) from Evergreen Ditch to Little Graneros Creek (98CW0150, 98CW0160).

- Greenhorn Creek Instream Flows (1503003, 1503004) are decreed for 4.75 cfs (May 1-July 14); 1.5 cfs (July 15-November 14); 0.85 cfs (November 15-March 15): and 1.5 cfs (March 15-April 30) from the headwaters to Highline Ditch and for 2.25 cfs (April 1-June 30); and 1.25 cfs (July 1-March 31) from Highline Ditch to the Hayden Supply Ditch (98CW0148, 198CW0154).
- Middle Creek Instream Flows (1503007, 1503008) are decreed for 3.4 cfs (April 15- June 30); 2.0 cfs (July 1-August 31); and 1.0 cfs (September 1- April 14) from the headwaters to the confluence with Ophir Creek and 5.1 cfs (April 1-August 31); and 2.8 cfs (September 1-March 31) from Ophir Creek to the Beulah Water Works Diversion (10CW0056, 10CW0057).
- Ophir Creek Instream Flow (1503002) is decreed year-round for 1.5 cfs from the headwaters to the confluence with Middle Creek (W4433)
- St. Charles River Minimum Flow (1503001) is decreed year-round for 3.0 cfs from the headwaters to the confluence with the North St. Charles River (W4435).

General Administration

The current Water Commissioner, Steve Stratman, has managed Water Districts14 and 15since 2016.District 15 is administered closely by the Water Commissioner, whereby the Water Commissioner will notify ditches when they are in and out of priority to divert based on gage data. Ditch users typically open and close their own headgates. On some occasions, the Water Commissioner will adjust headgates and shut off junior users, but typically out-of-priority calls are taken care of by phone. The Water Commissioner is in contact with users in this District every couple of weeks. They may contact the Water Commissioner if they think they are in-priority, and he will make a determination.

Diversion data are generally recorded. Some ditches have continuous recorders and diversions are continuously reported through telemetry; some diversions have continuous recorders that are routinely downloaded, and some diversions are entered from flume staff readings. User-supplied data are provided annually and in some cases monthly.

There are a few augmentation plans in the District including Avondale Augmentation Plan and Mountain View Water Association Aug Station (very small). Augmentation water supplies often include changed ditch shares.

The primary crop is grass pasture, with minor acreage of corn, pumpkins, and alfalfa. The season typically begins in late April or early May.

A few ditches are partially lined including Hayden Supply Ditch, Eagle Ditch, Wagner Ditch, and Bessemer Ditch. For general conveyance losses see H-I Model.

The following provides a normal year river call sequence:

Normal Year River Call Sequence

Year-Round	On Greenhorn Creek, the Hayden Supply Ditch is the controlling right year-round depending on flow quantities.
Runoff April-May	Subject to the Arkansas Mainstem call.
Irrigation Season June-October	On the Upper St. Charles, Dotson Ditch No. 1 is the calling right during the end of the irrigation season when flows are low.
Winter Nov-March	Subject to the Arkansas Mainstem call.

Municipal Use

Rye

The town of Rye receives its municipal supply from Rye Town Ditch (1400521).The water right is relatively senior and generally in priority. They also have two wells (1505797 and 1505061).

Beulah

Beulah has 3 systems that serve homes and businesses: Beulah Water Works, Pine Drive Water District, and Pine Drive Water Company. Some of the town of Beulah receives water from a direct flow right off Middle Creek called Beulah Water Works (1500600)

Pine Drive Water District

The Pine Drive Water District receives their supply from a direct flow right off the Saint Charles River, Pine Drive Water District (1500664). Additionally, they have two alluvial wells that are treated as APOD's, St. Charles Headgate Well (1505816) and Wagner Headgate Well (1505817).

Pine Drive Water Company

The Pine Drive Water Company receives their supply from a direct flow right off Squirrel Creek, Pine Drive Water Company (1500709). This is not really considered a municipal system; however, it serves a handful of homes, most are seasonal.

Colorado City

Colorado City's Water Treatment Plant is downstream of Beckwith Reservoir, where they store many of their changed ditch share credits, including from Hayden Supply Ditch (1500537) and the ditches mention below.

Reservoir Specific Information

Reservoirs in the basin are generally for recreation and municipal and industrial purposes although some stored water can be used as supplemental supply for irrigation.

Lake Minnequa
Lake Minnequa **(1503693)**is decreed for irrigation and industrial uses. It is currently used for retention/detention of local runoff only. Out-of-priority augmented diversions are decreed in 11CW0057 under Lake Minnequa Aug Plan (1507013).

St. Charles Res No 2(1503828) and Reservoir No 3 (1503829)
St Charles Reservoirs operate in conjunction for industrial purposes at CF&I. Their reservoirs are generally kept full. There are potential storage restrictions on both reservoirs. They are filled via both Minnequa Canal (1200511) and St. Charles Flood Ditch (1500522).

Lake Isabel
Lake Isabel (1503830) is an on-channel recreational reservoir owned and operated by the U.S. Forest Service for recreational purposes. It is decreed for 1,036 ac-ft. They generally keep it full year-round and release to replace evaporation (48 to 52 ac-ft per year); therefore, no content records are kept.

Where to find more information:
- Additional information on the mainstem call regime is presented in the ArkDSS Water District 17 memorandum.

Tributary Specific Information

The main tributary of the St. Charles River is Greenhorn Creek. The District can generally be divided into four main sections for discussion purposes:

- Greenhorn Creek
- Graneros Creek
- Upper Saint Charles
- Lower Saint Charles

The following lists of ditches were discussed during the meeting, and are not intended to be a complete list of ditches on each creek/river.

Greenhorn Creek
- Cuerna Verde Association (1500532) is a subdivision municipal supply.
- Centennial Ditch (1500530) has not diverted since 2013, the ditch used for municipal irrigation of the Cuerna Verde Association.
- Rye Town Ditch (1500521) provides municipal supply for the town of Rye.
- Shurtz Ditch (1500553) is a calling right and diversions are continuously recorded.
- Lloyd Ditch (1500514) water rights were transferred to Shurtz Ditch in 2001.
- Jamison Ditch (1500542) is an alternate point for water rights under several ditches on Greenhorn Creek including Hicklin Ditch C (1507005), Greenhorn Canon Ditch

(1500535), and Greenhorn Valley Ditch (1400536). Colorado City has transferred a portion of right for augmentation. The acreage associated with that transfer is now dry-land farmed.

- Greenhorn Valley Ditch (1500536) – a portion of the water right has been transferred to Colorado City and is taken at the Hayden Supply Ditch (1500537)
- Cold Spring Collection Gallery (1500605) is diverted from Cold Spring Creek as an alternate point for Hicklin Ditch A (1500538) and Hicklin Ditch D (1500711) for Colorado City municipal supply.
- Hayden Supply Ditch (1500537) is the primary calling right on Greenhorn Creek. The ditch diverts year-round for Colorado City and for storage in Lake Beckwith Reservoir. claims return flows from outdoor use (golf course) and primarily their wastewater treatment plant effluent to reach 35% historic returns. If they are unable to meet return flow obligations, they will use an augmentation station.
- Dunbaugh Ditch (1500545) includes water rights transferred from Mills Ditch (1500719).
- Lower Colorado City Feeder 2 (1500725) water rights have been abandoned, but water can be taken as an alternate point to several ditches.
- Stanley Ditch Sump (1500705) on Greenhorn below Graneros Creek confluence, is an alternate point to Stanley Ditch 1(1500554).

Graneros Creek

- Hickland Ditch (1500564) is primarily owned by Colorado City. Some of the water rights continue to be leased for irrigation on the original decreed acreage.
- Smith Austin and Pierson (1500566): The diversion is not mapped correctly in the GIS coverage.
- McDaniel (1500568)is owned by Colorado City, there has not been recent use recorded.

Muddy Creek

- South Muddy Ditch (1500606) headgate is on South Muddy Creek. They haven't diverted in years, but have managed to keep from being abandoned.
- Yellow Bank Ditch (1500636) headgate is on South Muddy Creek hasn't been usable since 2008.
- Nichols Ditch B (1500589) has been transferred to Nichols Ditch A (1500588).

St. Charles River

- Dotson Ditch No. 1 (1500507) calls out Lake Isabel storage during the irrigation season.
- St Charles Flood Ditch (1500522) calls year-round for industrial use at the steel mill by Evraz (formerly CF&I).
- Pablo Romero (1500516) water rights have been transferred to St. Charles Flood Ditch. A portion of water right is used to augment a youth camp; therefore, there are two different diversion accounts.